Correspondence

The Editorial Board will be pleased to receive and consider for publication correspondence containing information of interest to physicians or commenting on issues of the day. Letters ordinarily should not exceed 600 words, and must be typewritten, double-spaced and submitted in duplicate (the original typescript and one copy). Authors will be given an opportunity to review any substantial editing or abridgement before publication.

Differential Diagnosis of Pleural Effusions

TO THE EDITOR: The journal continues to publish very stimulating material. In one excellent recent article, Sahn discussed the enormous amount of information that can be gleaned from the analysis of pleural fluid.[1] He, however, did not consider an important test that occasionally provides the only clue to the diagnosis of malignant disease of the pleura: cytogenetic analysis of the cells in the pleural fluid. We believe that this test is important and deserves comment.

Malignant disease involving the pleura produces a variety of chromosomal abnormalities in the cells of the pleural effusion. Among these, hyperdiploidy and the presence of abnormal marker chromosomes have been suggested as useful criteria for the diagnosis of malignancy.[2] In one series,[2] routine cytologic examination could identify 65 percent of malignant effusions whereas cytogenetic analysis correctly diagnosed around 70 percent of such effusions. The difference between these figures was not statistically significant. However, when the results of the two tests were analyzed together, 83 percent of malignant effusions could be correctly identified, a result that was superior to either test done alone. Interestingly, cytogenetic analysis correctly identified more than 85 percent of lymphoma and leukemia involving the pleura, while cytologic examination could show only about 30 percent, a significant difference.

What is important about chromosomal analysis of pleural fluid is that it may be the only positive feature in an otherwise negative battery of tests done on the pleural fluid. Dewald and associates described three of several such patients in whom the typical chromosomal changes of malignancy were the only positive findings.[2] These patients subsequently manifested overt malignant disease; in one of the patients malignant mesothelioma developed six months later. Cytogenetic examination may therefore provide an early clue to the diagnosis of malignant disease of the pleura. Furthermore, it is inexpensive,[3] easily performed in any genetic diagnostic laboratory[2] and can provide a diagnosis as early as five hours after the pleural tap.[2] In view of these advantages and in order to ensure that physicians consider chromosomal analysis of pleural fluid, it must be included among the routine tests done to ascertain the etiology of pleural effusions.

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2. Dewald G, Dines DE, Weiland LH, et al: Usefulness of chromosome examination in the diagnosis of malignant pleural effusions. N Engl J Med 1976; 295:1494-1500
3. Goodlin RC: Utilization of cell chromosome number for diagnosing cancer cells in effusion. Nature 1963; 197:507

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TO THE EDITOR: Dr. Sahn has written an informative and almost comprehensive article on the differential diagnosis of pleural effusions, which was published in the August 1982 issue.[1] No article on this subject is complete, however, without at least mention of two additional diagnostic techniques, thoracoscopy and open pleural biopsy. We have found these procedures to be most useful in establishing the diagnosis of a malignant pleural effusion when cytology of the pleural fluid has been negative and when needle biopsy of the pleura has been negative as well. Sahn points out that pleural fluid cytology is positive in "approximately 50 percent to 70 percent of patients" and "the yield of repeat cytology in carcinoma of the pleura is 17 percent to 22 percent." He goes on to say that "carcinoma may be diagnosed on pleural biopsy in approximately 60 percent of cases of carcinoma of the pleura." A number of patients remain who have pleural malig-